

**Translation**

PATENT COOPERATION TREATY

PCT/FR2003/002011



# PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>BR1421-PCT</b>	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. <b>PCT/FR2003/002011</b>	International filing date (day/month/year) <b>30 juin 2003 (30.06.2003)</b>	Priority date (day/month/year) <b>02 juillet 2002 (02.07.2002)</b>
International Patent Classification (IPC) or national classification and IPC <b>B29B 17/02</b>		
Applicant <b>GALLOO PLASTICS (S.A.)</b>		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.  
☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 1 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand <b>23 janvier 2004 (23.01.2004)</b>	Date of completion of this report <b>08 November 2004 (08.11.2004)</b>
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/FR2003/002011

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

- ☐ the international application as originally filed
- ☒ the description:  
pages \_\_\_\_\_ 1-41 \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☒ the claims:  
pages \_\_\_\_\_ 1, 3-23 \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, as amended (together with any statement under Article 19  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_ 2 \_\_\_\_\_, filed with the letter of \_\_\_\_\_ 16 August 2004 (16.08.2004)
- ☒ the drawings:  
pages \_\_\_\_\_ 1/1 \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims	1-23	YES
	Claims		NO
Inventive step (IS)	Claims	1-23	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-23	YES
	Claims		NO

**2. Citations and explanations**

Reference is made to the following documents:

D1: US-A-6335376

D2: WO 01/17742

**1. Claim 1 concerns a:**

Method of processing a mixture of materials derived from the remains of crushed consumables that have reached the end of their useful life and are in the form of fragments, for pre-concentrating this mixture of upgradable materials and removing at least some of the contaminants therefrom, the mixture to be processed comprising: a fraction of upgradable materials, i.e. non-expanded synthetic polymer materials of various types and/or compositions and/or shape factors and in the form of fragments in states ranging from rigid to flexible, fractions of contaminants consisting of mineral materials and/or metal materials and/or organic materials other than non-expanded polymer materials and/or synthetic polymer materials in the expanded state.

A method of this type is known in the prior art.

The method according to claim 1 is characterized in that it comprises:

- a) a first stage for mechanical separation by screening and/or according to shape factor to extract at least part of the contaminant mineral material fraction from the mixture of fragmented materials;
- b) an aeraulic separation stage using a flow of gas and comprising an inlet for the material mixture from stage a), from which at least part of the mineral material fraction has been removed, and three outlets for the extraction of the separated material fractions, the first fraction (b1) consisting of a fraction of ultralight and/or expanded synthetic polymer materials, the second fraction (b2) consisting of a fraction of heavy materials present in the mixture, and the third fraction (b3) consisting of a fraction of synthetic polymer materials to be upgraded, which are in a fragmented form ranging from a rigid state to a flexible state;
- c) a stage in which the fraction (b3) of polymer materials to be upgraded resulting from stage b) is crushed, with a mesh size that enables the contaminants included in, adhering to or combined with the fragments of polymer materials to be upgraded to be released;

d) a second mechanical separation stage for screening and/or aeraulically separating with a flow of gas the fraction of synthetic polymer materials to be upgraded resulting from crushing stage c) in order to remove therefrom at least part of the fraction of contaminants released during crushing and to extract therefrom the fraction of upgradable materials constituting the desired mixture and pre-concentrated to form upgradable materials and still containing contaminants.

2. D1, which is considered to represent relevant prior art, discloses a method from which the subject matter of claim 1 differs in that means b) and c) are provided.

Therefore the subject matter of claim 1 is novel (PCT Article 33(2)).

3. An intermediate stage in which a fraction of polymer materials to be upgraded is crushed is known in the prior art. However, these features have already been used in a recycling method; see crushing 11 in D2.
4. A method involving stages a) to d) according to claim 1 is neither disclosed nor suggested by the prior art.

Therefore the method according to claim 1 of the present application is considered to involve an inventive step.

5. Claims 2 to 23 are dependent on claim 1 and hence likewise meet the PCT novelty and inventive step requirements.